

T-10 Recommendations on Vehicle Electrification

Background

Section T-10 of the WA CAT Transportation Policy Option Descriptions (December 2007) outlined a variety of actions to accelerate deployment and commercialization of Plug-In Hybrid Electric Vehicles (PHEVs). PHEVs and Electric Vehicles (EVs) could displace petroleum with electricity, with significant potential to reduce GHGs and expenditures on oil imports.

In order to realize meaningful GHG reductions, PHEVs and EVs would have to be served with electricity from sources other than fossil fuels. This means that incremental electric demand from vehicles would have to be matched by increased clean energy generation. With two-way connections to the grid, vehicles could provide energy storage and other “ancillary services” back to the grid, enabling it to accommodate more intermittent renewable energy generation. Electrifying transportation and greening the grid can be mutually reinforcing initiatives.

Recommendations

Even since the 2007 report, electric vehicle technology has made significant strides, with major vehicle manufacturers now making significant investments in commercializing the technology, and commercial models expected to be available from OEMs in 2010. Against this backdrop, we believe the most important actions for Washington are:

- 1) **Aligning Washington vehicle emission standards and purchasing incentives to ensure that more economically attractive PHEV options are delivered to Washington consumers faster.**
 - *Incorporate Zero Emission Vehicle requirements (ZEV) into Washington’s vehicle emission standards.* Washington and (18?) other states have adopted “Clean Car” vehicle emission standards. Most of those states include a standard ZEV component in those standards, but Washington does not. As a result, Washington consumers will not have access to as many PHEVs and EVs as other states. Adopting the ZEV component will provide more clean vehicle choices to Washington consumers, and increase the incentive for manufacturers to accelerate commercialization of electric drive train options.
 - *Direct the Department of Licensing and the Department of Revenue to develop options that would decrease the cost of owning and operating PHEVs and other high mileage vehicles relative to the cost of owning and operating less efficient vehicles.* By helping to offset additional consumer costs for purchasing PHEVs, Washington can reduce climate pollution and reap substantial economic rewards by decreasing expenditures on imported petroleum.
- 2) **Providing incentives to demonstrate vehicle electrification for heavy duty vehicles other than passenger cars and light trucks.** Direct incentives for demonstration efforts would yield more bang for the buck in this sector, as the technology development is in a

somewhat earlier stage. Displacing petroleum in large diesel vehicles yields not only GHG benefits, but also significant reductions in hazardous local pollutants, and in “black carbon” (soot) which is believed to significantly enhance greenhouse warming. School buses, drayage trucks, and other heavy duty vehicles may be good candidates.

- 3) **Integrating electric vehicles into the utility infrastructure in ways that add value to the electric power system and advance progress toward a “smart grid” that can better utilize distributed generation, storage, and demand-side solutions.** PHEVs are one of many technologies that can open the pathway to a more advanced, interactive, resilient, “smart” electric power grid that improves reliability as well as environmental and economic performance. For example, if the grid could call on the storage capability of vehicle batteries, it could successfully integrate more intermittent renewable energy generation, like wind and solar. Northwest research institutions, private firms, and technology innovators are on the cutting edge of opening up this new frontier – integrating the energy capabilities of vehicles and the electric grid. Current utility incentives often discourage innovation. The region’s utilities, technology innovators, and research institutions should be actively encouraged to develop the metering, rate structures, and physical infrastructure to maximize the potential of this opportunity. For example, the WUTC should allow rate recovery for prudently incurred expenses associated with advancing and developing new technology and practices that will accelerate deployment of PHEVs and maximize their value to the electric grid.